



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200
Fax 613 632-5246

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name
P0042166	ACI001-VC	1	1	Net 30	M6061T6S.375	6061T6 Sheet, .375 : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A- 250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209				32	1/10/2019	32		S144618	Stock	1/14/2019	\$ 25.89 / sf	0		\$828.53	Acier Ouellette Inc.
		3			M304B0.500X0.500	304 Bar .500 X .500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft				12		12		S144619	Stock	1/14/2019	\$ 6.23 / ft	0		\$74.76	Acier Ouellette Inc.
		4			M304R0.375	304 Round Bar 0.375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft						12		S144620	Stock	1/14/2019	\$ 1.32 / ft	0		\$15.90	Acier Ouellette Inc.
		5			M304R1.000	304 Round Bar 1.00 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft				14		14		S144621	Stock	1/14/2019	\$ 12.65 / ft	0		\$173.99	Acier Ouellette Inc.

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Container No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total	Supplier Name		
		6			MT-A513-T-1.500W0.187	A513 ALLOY STEEL ROUND TUBING, 1.500" Dia X 0.187" Wall : MATERIAL:ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM) ASTM A513 TYPE 5				12		12		S144622	Stock	1/14/2019	\$ 6.96 / ft	0		\$83.51	Acier Ouellette Inc.		
Total:											82		82									\$886.39	

Plex 1/14/2019 12:55 PM dart.Tollis.Andrew



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042166



Supplier: ACI001-VC
Acier Ouellette Inc.
935 Boul. Du Havre
Valleyfield
QC
J6S 5L1 Canada
Phone: 800 667 4248
Fax: 450 377 5696

PO No: PO042166

PO Date: 1/4/19

Due Date: 1/10/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

E-MAILED
JAN 04 2019

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground

Pymt Terms: Net 30

Freight Terms:

Special Comments: quote no. sou0153533

Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1 ✓ M		M6061T6S.375		6061T6 Sheet, .375 : MATERIAL: 6061-T6/T62 ALUMINUM SHEET AS PER QQ-A-250/11 OR AMS-QQ-A- 250/11 OR AMS 4025 OR AMS 4027 OR ASTM B209	Firmed	-	1/10/19	32 sf ✓	0 sf 32sf	32 sf AT 1904/14	\$25.891562/sf	\$828.53
2		M2024T3S.063		2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	-	1/10/19	96 sf	0 sf	96 sf	\$13.65875/sf	\$1,311.24

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042166



Items

Line Item	Job	Part	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
3 ✓ AT		M304B0.500X0.500		304 Bar .500 X .500 : MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE AS PER ASTM A276 OR ASTM A240 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	1/10/19	12 ft	0 ft	12 ft	\$6.23/ft	\$74.76
4 ✓ AT		M304R0.375		304 Round Bar 0.375 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	1/10/19	12 ft	0 ft	12 ft	\$1.3158333/ft	\$15.79
5 ✓ AT		M304R1.000		304 Round Bar 1.00 : MATERIAL: AISI 304/316 SS ROUND BAR AS PER ASTM A276 NOTE: AISI 303 NOT ACCEPTABLE receive ft	Firmed	-	1/10/19	12 ft	0 ft	12 ft	\$12.654166/ft	\$151.85
6 ✓ AT		MT-A513-T-1.500W0.187		A513 ALLOY STEEL ROUND TUBING, 1.500" Dia X 0.187" Wall : MATERIAL: ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM) ASTM A513 TYPE 5	Firmed	-	1/10/19	12 ft	0 ft	12 ft	\$6.9591666/ft	\$83.51

Grand Total: \$2,465.68

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CL



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042166



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program
A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/4/19 1:06 PM dart.lavoie.chantal



ACIER OUELLETTE INC.

935, Boul. du Hâvre
Salaberry de Valleyfield (Québec) J6S 5L1
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

DELIVERY - CLIENT

Copy

CO00126716

Billed to

DART AEROSPACE LTD
1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7

Shipped to

1270, ABERDEEN ST.
HAWKESBURY, Ontario, K6A 1K7
*1 palette +
1 wrap +
1 pce.*

Att : CHANTAL LAVOIE Tél.: 613-632-5200

Instruction F-M

Delivery Route 5

Customer N° CLI0001056
Date 2019/01/07
Delivery date **2019/01/14**
Your order N° PO042166
Processed by Elodie Viaud
Salesman ELODIE VIAUD
Carrier OUELLETTE VALLEYFIELD
Credit Terme Net 30 Days



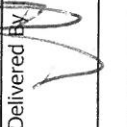
Product Description	Weight	Qty	UM	PCS NB			Internal Use Only		
				CMD	EXP	B/O	IN	I	S C
1 ALU PLATE 3/8 6061-T651 (4 X 8) PAL-38486061 4285 1 X 4' X 8' STOCK LINE 1 HEAT 70200124 <i>AT</i>	174.08	32.00	PI2_\$CLB	<i>1X</i>	<i>LIK8</i>				
2 SQUARE SS 1/2 SS304 (R) CSS-12 2082 1 X 12' STOCK LINE 3 HEAT 56180788 <i>AT</i>	10.20	12.00	PI_\$CLB	<i>1X12'</i>					
3 ROUND SS 3/8 304 (R) RSS-38 5768 1 X 12' STOCK LINE 4 HEAT 43806 <i>AT</i>	4.51	12.00	PI_\$CLB	<i>1X12'1"</i>					
4 ROUND SS 1 304 (R) RSS-1 5747 1 X 12' STOCK LINE 5 HEAT FF-6433 <i>AT</i>	32.04	12.00	PI_\$CLB	<i>1X12'10"</i>					
5 TUBE MEC 1.500 OD X .188 (R) TME-1500188 6567 1 X 12' STOCK LINE 6 HEAT A362665 <i>AT</i>	31.61	12.00	PI_\$CPI	<i>1X12'10"</i>					

Note : ATTENTION: MILL TEST REQUIS



DELIVERY - CLIENT

CO00126716

Product Description	Qty	Weight	UM	PCS NB			Internal Use Only			
				CMD	EXP	B/O	IN	I	S	C
Conditions : All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.				NIR : R-109516-6						
Total Weight (Lbs) : 252.44										
Prepared By : 	Verified By : 	Delivered By : 	Time	Date				Customer's Signature		
				19/01/14						

4285

PAL-38486061

TRA-3462

52262

MILL TEST CERTIFICATE	No: 17189 Date: 7/26/2018	CERTIFIED SRAC-IQNet ISO 9001/2015 No.10/valid 2020	Accredited Nadcap vimetco ALRO SLATINA
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CONTRACT/ORDER : 2255
BILL OF DELIVERY : 80369862
TRUCK/CONTAINER : MSCU 5632850

MATERIAL : ALUMINIUM PLATES
ALLOY : 6061
LOT/DIMENSIONS (mm): 70200123 : 0.375"THX48.5"WDX96.5"LT
70200124 : 0.375"THX48.5"WDX96.5"LT
TEMPER: T651

ACCORDING TO : ASTM B209; AMS 4027N; ANSI H35.2; ASME SB209; AMS-QQ-A-250/11

ACTUAL MECHANICAL PROPERTIES				1 MPa = 1 N/mm2 = 0.145 ksi = 0.102 kgf/mm2								
1 lbs = 0.4536 kg			UTS		YTS		Elong.%					
			KSI		KSI		50mm					
Specified values:			min.	max.	min.	max.	min.					
			42		35		10					
LOT / BATCH	CASE	NET WEIGHT lbs	Measured values:									
70200123	641387;641509; 641511 639497;639515; 639517;639523	7,010.705 11,106.898	47.5		40.9		19					
S38065695			47.5		40.9		19					
70200124			48.4		40.6		17.5					
S38065695			48.5		40.8		18					
ACTUAL CHEMICAL ANALYSIS %												
BATCH	SI	Fe	Cu	Mn	Mg	Cr	NI	Zn	TI	Ga	V	Al
S38065695	0.72	0.45	0.25	0.15	1	0.16	0.012	0.13	0.027	0.01	0.019	REM.
S38065695	0.72	0.45	0.25	0.15	1	0.16	0.012	0.13	0.027	0.01	0.019	REM.
Acc. Standard	Min.	0.4	0.15	0.8	0.04							REM.
	Max.	0.8	0.7	0.4	0.15	1.2	0.35	0.05	0.25	0.15	0.05	0.06
Remarks:						Other- Each- Max.: 0.05		OthersTotal- Max.: 0.15				

REMARKS:

ACCORDING TO: ASTM B209:2014; AMS 4027N:2008; ANSI H35.2:2017; ASME SB209:2017; AMS-QQ-A-250/11:1997
We hereby certify that the material detailed hereon has been produced and tested according to the requirements of the relevant standards, specification and/or order. Keep in dry conditions, without large temperatures variations. The differences between metal and air must not exceed 11 °C. Please follow the recommendations of the Aluminium Association Guide for minimizing water staining, latest edition, for the unloading and storage of the material in your premises before usage. Also we certify that ALRO products complies with REACH legislation no. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals and CLP legislation no. 1272/2008 on classification, labeling and packaging of
According to EN 10204:2004 3.1

QUALITY CONTROL DEPT.

Marius Olteanu, Eng.
SC ALRO SA SLATINA
Punct de lucru Slatina
Str. Mitcov Nr.1, Jud. Galati
Serv. Inspecția Calității

ALRO S.A. No.116, Pitești Street Phone: +(40) 0249 435 117; 0249 432 956 alro@alro.ro
230048-Slatina-ROMANIA Fax: (40) 0249 411 487; 0249 415 992 www.alro.ro

cod f1/PO-051/Rev.4/2012
End of Certificate



heat: 70200123
70200124

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: 6061-T6/T62/T651 ALUMINUM SHEET OR PLATE
SPECIFICATION:
QQ-A-250/11 OR AMS-QQ-A-250/11
OR AMS-4025-OR-4027
OR ASTM B209

△ PART NUMBER: M6061T6S | XXX | X | W | WWW |
| THK | | WIDTH |

WHERE "XXX" = THICKNESS (IN INCHES)
AND "W.WWW" = WIDTH (IN INCHES, OPTIONAL, FOR SPECIFYING CUT PLATE)

EG. 0.063" THICK SHEET = M6061T6S.063
EG. 3.5" WIDE BY 0.500" THICK PLATE = M6061T6S.500X3.500

△ PREFERRED SIZE: .XXX BY 4FT BY 8FT FOR SHEET

RELEASED
2018 MAR 13
EJS 18-665

APPROVED

C	ADD PLATE AND T651 SPEC	ML	17.12.13
B	REFORMAT DWG. ADD B209 SPEC (ZN DB-1), REF PAR 08-020A	CP	09.07.13
A	NEW ISSUE	RF	01.08.08
REV.	DESCRIPTION	BY	DATE
DESIGN	DS		
DRAWN	ML		
CHECKED	NO		
MFG. APPR.	JFS		
APPROVED	HS		
DE APPR.	CP		
DATE	17.12.13		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6S			
SHEET 1 OF 1			
TITLE 6061-T6 SHEET/PLATE SPEC			
SCALE NTS			
COPYRIGHT © 2001 BY DART AEROSPACE LTD			
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T65.375
 DATE: 19/01/14

PO / BATCH NO.: P0042166/5144618

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 32sf
 QUANTITY INSPECTED: 32sf
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375
 THICKNESS RECEIVED: 0.375
 SHEET SIZE ORDERED: 4'x8'
 SHEET SIZE RECEIVED: 4'x8'

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL PER M-DRAWING	(Y)	N	ASTM B209
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT REF # TO LINK CERT	(Y)	N	HT 70200124
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>61</u> DATE: <u>19/01/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

2082.

CSS-12

20588

52335

BOLLINGHAUS[®] STEEL Bollinghaus Steel, SA DIN EN ISO 9001:2008 TÜV CERT No. 01 100 030458		Abnahmeprüfzeugnis/Mill Test Certificate/Certif. de Qualidade		No.: / Nr.: / Nr.:										
		EN 10204:2004 / 3.1		0000145669										
Unsere innere Verweisung / Our Int. Ref / N/ ref int		Datum / Date / Data												
5600042353 000110		06.09.2018												
Spezifikation / Standards / Normas TYPE 304/UNS S30400 and TYPE 304L/UNS S30403 acc. to ASTM A276/A276M-17, ASTM A182/A182M-18, ASTM A193/A193M-17, ASTM A479/A479M-18, ASTM A320/A320M-17a, ASTM A314-15, ASTM A282-15 Pract. E, AMS QQ-S-763D, AMS 5639J, AMS 5647K, ASME SA479/SA479M-2017, ASME SA276, ASME SA182/SA182M-2017, ASME SA193/SA193M-2017, ASME SA320/SA320M-2017, NACE MR0175-2015, execution as per ASTM A484/A484M-18.														
Kunde / Customer / Cliente			Endgültiger Kunde / Final Customer / Cliente Final											
Bestell Nr./Order Nr./ Enc.Nr. C116555			Bestell Nr./ Order Nr./ Enc.Nr. C11655.05											
Produktgruppe / Product Group / Grupo Produto		Gewicht / Weight / Peso		Bunde / Bundle / Atados										
AISI 304/L CD SQ 1/2"		1.120 lb		01										
Werkstoff-Nr. Material-no. Qualidade 1.4307		Werkstoff-Normbezeichnung / Material standard grade / Norma do material X 2 CrNi 18-9												
Beschreibung / Description / Descrição Stainless steel cold drawn square bars. US DFAR 252.225-7009: MELT SOURCE/MFG: United Kingdom.														
Schmelzen Nr. Cast nr. / Fusão nr.	Chemische Analyse in % / Chemical composition in % / Análise química em %													
56180788	C	0.022	Si	0.320	Mn	1.800	P	0.034	S	0.025	Cr	18.100	Ni	8.070
EAF+AOD	Mo	0.290	Co	0.164	Cu	0.426	N	0.074	Ti	0.003	Al	0.006	-	-
Proben Nr. Test no. Amostra no.	ASTM E398		ASTM A370											
	Kerbschlagarbeit Impact Test Resistência	Streckgrenze Yield point Tensão limite	Dehngrenze 1% point Limite de extensão	Zugfestigkeit Tensile strength Tensão de ruptura	Dehnung Elongation Alongamento	Einschnürung Reduction of area Coef. Estricção								
	{Charpy V}	Rp 0,2 %	Rp 1,0%	Rm	A5	4D								
	[J]	[Ksi]	[Ksi]	[Ksi]	[%]	[%]								
0157462.01.01	-	83	97	105	41.7	42.0								
Visuelle Kontrolle Visual inspection Inspeção visual	<input checked="" type="checkbox"/>	ASTM E10		ASTM A262 Practice E		Wärmebehandlung Heat treatment Tratamento térmico Annealed Quenched 1958 °F (1070 °C) (water quenched)								
	OK	Härte Hardness Dureza 213 [HB]		Korrosionsbeständigkeit IC Test <input checked="" type="checkbox"/> Corrosão Intermetálica OK										
ASTM A484 Maßkontrolle Dimensional inspection Inspeção dimensional	<input checked="" type="checkbox"/>	ASTM E112		Abnahmebeauftragter Authorized Inspection Representative Inspector de Qualidade										
OK	Korngröße Grain size Tamanho de grão -		Vasco Ferreira (Q - VF)											
Verwechslungsprüfung Test of identity Teste de identificação	<input checked="" type="checkbox"/>	Makroskopische Untersuchung Macrographic test Material free from segregation defects.												
OK														
Bemerkungen / Remarks / Observações Material is free of mercury and radiation contamination. No weld repair done. Country of origin: United Kingdom Original certificate available by request.			Bollinghaus Steel, SA Hiermit bestätigen wir, dass das Material der oben genannten Spezifikation entspricht. We confirm that this material meets the specification according to the mentioned standards. Confirmamos que este material respeita as especificações de acordo com as normas referidas.											

13.SPG03-10.CX

Heat: 56180788

218503

SPECIFICATION CONTROL DRAWING

△ PURCHASE MATERIAL: AISI 304/316 SS BAR OR AISI 304/316 SS PLATE
(NOTE: AISI 303 NOT ACCEPTABLE)

△ SPECIFICATION:

PART NUMBER: M304B | T.TTT | X | WWW.WWWW |
THICK | WIDTH

WHERE "T.TTT" = THICKNESS IN INCHES
AND "WWW.WWWW" = WIDTH IN INCHES

△ EG. 0.5" x 3.0" BAR = M304B0.500X03.000
EG. 0.5" x 12.0" PLATE = M304B0.500X12.000

RELEASED
2010-11-30

C	ADDED PLATE TO PURCHASE MATERIAL. ADDED PLATE RELATED SPECIFICATIONS, AND RE-CHANGED TITLE FROM "304/316 BAR" TO "304/316 BAR/PLATE"	MB	10.11.25
B	REFORMAT DWG. ADD SPECS (ZN D6-1). REF PAR 08-020A	CP	09.07.15
A	NEW ISSUE	PH	05.06.10
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	10.11.25		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304B			
TITLE 304/316 BAR/PLATE			
SHEET 1 OF 1			
REV. C			
SCALE NTS			
COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND NOT TO BE RELEASED FOR ANY PURPOSE OR USED IN CONNECTION WITH ANY OF DART AEROSPACE LTD'S UNCLASSIFIED INFORMATION WITH DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304 B0.500x0.500
 DATE: 19/01/14

PO / BATCH NO.: P0042166 / 5144619

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12'
 QUANTITY INSPECTED: 12'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.500"
 THICKNESS RECEIVED: 0.500"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	ASTM A276
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	LT: 56180788
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	<input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 61</u> DATE: <u>19/01/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

5768

RSS-38

Fidelity C17259

51864

VIRAJ PROFILES LIMITED

VIRAJ

Works: SURVEY NO.- 25/1, 25/2, 26 & 34, Village- MAAN, Taluka- PALGHAR, Dist.- THANE, MAHARASHTRA -401 506, INDIA,
e-mail- vielqc@viraj.com

18931

TEST CERTIFICATE

ORDER NO	PACKING LIST NO	INSPECTION NO	DATE
	64/1015893/37	100007558464	08.12.2016
		GRADE	HEAT No
		304/304L ✓	43806 ✓

BUNDLE NO :
1100619278, 1100619277, 1100619276, 1100619275, 1100619274,

DESCRIPTION
STAINLESS STEEL BRIGHT BARS

COLD DRAWN POLISHED - 2H

SIZE	SHAPE	TOLERANCE	LENGTH	PIECES	WEIGHT
3/8" /	ROUND	ASTM A484	12' - 14'	1259	5,700.000 LB

CHEMICAL ANALYSIS

%C	%Mn	%Si	%S	%P	%Cr	%Ni	%Cu	%Mo	%Co	%N2
0.0230	1.630	0.270	0.0250	0.0360	18.220	8.050	0.600	0.450	0.160	0.08300

TEST RESULTS

0.2% yield strength ksi	Tensile Strength ksi	Elongation %	Reduction Of Area %	Hardness BHN	Grain Size NOS
93.0	111.0	42.0	73.0	226.0	7.0

SPECIFICATION:

MATERIAL CONFIRMS TO DIN EN 10088-3:2005:WNR 1.4301/1.4307, EN 10222-5 AND EN 10272 COND-A & ASTM A182/A-182M-15, ASTM A276/A276M-16 COND A, A479/A479M-15 COND A, A193/A193M-12b B8 CL-1, A320/A320M-11a B8 CL-1, A484 16, A388/A388M-05, ASME SA182-14, SA479-11, SA 193-11 B8 CL-1, SA320-11 B8 CL-1, ASTM A314-2008. IGC SATISFACTORY AS PER ASTM A 262-10 PRACTICE E. AMS 5639H/AMS5647J (EXCEPT MARKING), QQ-S-763F, NACE MR0103-2012, NACE-MR0175/ISO-15156-2015. SAE-AMS-S-7720A, MIL-S-862-B. AISI 304/304L & UNS#S30400/S30403. CERTIFICATION AS PER EN 10204-3.1.

REMARKS

MATERIAL IS FREE FROM MERCURY CONTAMINATION, FREE FROM WELD OR WELD REPAIRS, MICRO: FREE FROM CONTINUOUS CARBIDE NETWORK ON GRAIN BOUNDARIES. MACRO: GOOD, MINIMUM SOLUTION ANNEALING TEMPERATURE 1050C, SOAKING TIME 1/2 HRS, WATER QUENCHED. MELT SOURCE: AOD. WE CONFIRM THAT THE MATERIAL HAS BEEN TESTED AND FOUND TO BE FREE FROM RADIOACTIVE CONTAMINATION. COUNTRY OF ORIGIN: INDIA.

We hereby certify that the material described above has been tested and complies with the terms of order/contract.

WORKS INSPECTOR
K R K MURTHY

Heat: 43806

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR
(NOTE: AISI 303 NOT ACCEPTABLE)

A SPECIFICATION: ASTM A276
PART NUMBER: M304R0.750 DIA.

WHERE "D.DDD" = DIAMETER IN INCHES
EG. 0.75" ROUND BAR = M304R0.750

RELEASED
10/23/25

B	REFORMAT DWG. ADD SPECS (ZN D6-1).	CP	09.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	QA		
CHECKED	5		
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	09.07.15		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304R			
SHEET 1 OF 1			
REV. B			
TITLE			
304/316 ROUND BAR			
SCALE			
NTS			
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R0.375
 DATE: 19/01/14

PO / BATCH NO.: P0042166/S144620

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 12.08'
 QUANTITY INSPECTED: 12.08'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 0.375"
 THICKNESS RECEIVED: 0.375"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/>	N	
CORROSION	Y	<input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/>	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/>	N	ASTM A276
CORRECT THICKNESS	<input checked="" type="checkbox"/>	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/>	N	HT: 43806
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/>	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/>	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>JAS 31 9-89</u> DATE: <u>19/01/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

22485

52993


INSPECTION CERTIFICATE

ACCORDING TO EN 10204/3.1 : 2005

AD 2000 - MERKBLATT W0/W2 CERTI NO. 07 203 1409 WP-1414/16 & PED 2014/68/EU CERTI NO. 07 202 1409 WZ 1414/16

(NABL ACCREDITED LAB)

Test Certificate No. : 89622
 Date of Issue : 11-October-2018
 INVOICE NO : ISI/18-19/3652
 PO NO : MN6237 & MN6234
 CIN NO : U27100G11999PLC036413

PRODUCT		SUPPLY CONDITION	COLOUR CODE	PROCESS ROUTE	STAMP OF TESTING ENGINEERS		ORDERED	LENGTH REQUIRED	
STAINLESS STEEL BRIGHT ROUND BARS " LAXCON BRAND "		Peeled, Ground & Polished	WHITE	EIF-AOD-LR-Fully Killed				12'-14'	
Item No.	Heat No.	Grade	Size (INCH)		Tolerance	No of Bndl	Pcs	Net Wt. (lbs)	
1	FF-6433	AISI 304L	1"		h9	4	186	6885	
2	FF-6389	AISI 304L	1-1/4"		h9	3	57	3344	
CHEMICAL COMPOSITION (Weight %)									
	C	Mn	Si	S	P	Cr	Ni	N	
Min.	-	-	-	-	-	18.00	8.00	-	
Max.	0.030	2.00	1.00	0.030	0.045	20.00	12.00	-	
FF-6433	0.023	1.70	0.38	0.014	0.044	18.19	8.06	0.0765	
FF-6389	0.029	1.66	0.34	0.018	0.043	18.26	8.09	0.0770	
MECHANICAL PROPERTIES / Test Condition : Solution Annealed									
Specified Values	Test Method :- ASTM A370				Hardness (HBW)		Test Method :- ASTM E-23 Charpy (V) Impact Test (2mm) at (Joules)		
	Proof Strength N/mm ²	Tensile Strength N/mm ²	Elongation after Fracture A %	Reduction of Area %	Min.	Max.	I	II	Avg.
	0.2% (Rp 0.2)								
SPEC	170 MIN	485 MIN	40 MIN	50 MIN	-	-	-	-	-
FF-6433 / 1"	263	589	56.31	71.00	165	172	-	-	-
FF-6389 / 1-1/4"	265	577	60.52	70.44	170	175	-	-	-

Remarks :

- The material is free from Radioactive contaminations.
- Lead has not added during manufacturing.
- Steel is fully killed by Aluminum for fine grain structure.
- Material confirms the requirements as per NACE MR 0175: 2015.
- IGC test as per ASTM A262 Practice E & found OK.
- Material confirms the requirements as per ASTM A276: 2017, ASTM A484, ASTM A479: 2017, ASME SA479: 2017, ASTM A182: 2017, ASME SA182.

We hereby certify that above material described herein has been manufactured and tested with satisfactory results in accordance with the Specification & requirements

Country of Origin : Laxcon Steels Ltd, India



Heat: FF-6433

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS ROUND BAR
(NOTE: AISI 303 NOT ACCEPTABLE)

B SPECIFICATION:

ASTM A276

PART NUMBER:

M304R/D.DDD
DIA.

WHERE "D.DDD" = DIAMETER IN INCHES

EG. 0.75" ROUND BAR = M304R0.750

RELEASED
08/07/15

B	REFORMAT DWG. ADD SPECS (ZN D6-1).	CP	08.07.15
A	NEW ISSUE	AJS	08.03.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	GA		
CHECKED	GA		
MFG. APPR.			
APPROVED	AD		
DE APPR.	AD		
DATE	09.07.15		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M304R		REV. B SHEET 1 OF 1	
TITLE 304/316 ROUND BAR		SCALE NTS	
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304R 1.000
 DATE: 19/01/14

PO / BATCH NO.: P0042166/S144621

MATERIAL CERT REC'D: Yes
 QUANTITY RECEIVED: 13.75'
 QUANTITY INSPECTED: 13.75'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.000"
 THICKNESS RECEIVED: 1.000"
 SHEET SIZE ORDERED: —
 SHEET SIZE RECEIVED: —

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	<input checked="" type="checkbox"/> N	
CORRECT FINISH	<input checked="" type="checkbox"/> Y	N	
CORROSION	Y	<input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y	N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y	N	ASTM A276
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y	N	
PHOTO REQUIRED	Y	<input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y	N	LIT: FF6433
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y	N	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	<input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	<input checked="" type="checkbox"/> N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>S1</u> DATE: <u>19/01/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

TRA 2690

6567

TME-1500188

50975

TPI Work Test Certificate



TUBE INVESTMENTS OF INDIA LIMITED
TUBE PRODUCTS OF INDIA - MODULE - I
POST BOX NO.4 & 18, M T H ROAD, AVADI, CHENNAI - 600054



Customer		TC No	: PAE/8C17B0426
Order No.	: MCH537 /23-SEP-17	Date	: 10-NOV-17
	: /		
Description	: PRECISION STEEL TUBES - CDW	Invoice No	: 3802020000435
Specification	: ASTM A513/A513M-15 T5 C1026	Invoice Date	: 30-OCT-17
Condition	: SRA	Job /Batch No	: RBCH1710095
Bundle No's	: 017017548,017017549,017017907,017017908,017018046,017018047		
Cust Part No	:		
Bundle	: CUSTOMER SIZE /CONDITION /QUANTITY /GROSS WEIGHT /TAG MARKING / WO.NO. / SPEC &		
Tagging	: GRADE /DESTINATION / BUNDLE NO /COUNTRY OF ORIGIN.		
Tube Marking	: P.O.NO. /TPI-ED /SIZE /SPEC /CONDITION/ TAG MARKING/ HEAT NO. /MADE IN INDIA.		
P. Uom	: Inches		
Size	: 1.500" OD X 1.124" ID X 0.188" WT X 20'- 24' R/L		

Quantity In : 3459.462 Ft

LADLE ANALYSIS :

Process	Heat No.	%C	%Mn	%P	%S	%Si	%Al	%Cr	%Ni	%Cu	%Nio
Min		.22	.6								
Max		.28	.9	.035	.035						
Obs	A362665	.26	.74	.009	.003	.096	.035				

Full Section Longitudinal Tensile Test at Room Temp				
Test	Heat No	Y.S	T.S	Elong.
Min		448	517	10
Max				
		MPA	MPA	%
OBS	A362665	360.98	659.97	26

Rockwell Hardness		Roughness	
Hardness	OD	OD	ID
80			
HRB			
94			

Dimensions in : inches				
Spec	OD	ID	WT	Len
Min	1.5	1.119		240
Max	1.505	1.124		288
OBS-Min	1.502	1.12	0	253.937
OBS-Max	1.504	1.122	0	271.654

Technological Tests :

Test	Spec	Result
Crushing		-
Flaring		-
Flattening		-
Flanging		-
Rev. Flang.		-
Elong.Gaug.Len		

Non-Destructive Tests :

Test	Spec	Result
Straightness	0.76/1000 MM MAX	0.25 / 1000 MM
Eddy Current	100	100% TESTED OK
Visual		DEFECT FREE
Ultrasonic Test		-
Application Testing		

This is to certify that the goods are supplied as per the purchase order and specification Requirements

Prepared by : B. Arund
 Quality Shift Incharge Signature:

for Tube Investments of India
 Unit: Tube Products of India

D. S. Mathavan
 Mathavan.M
 Mgr-Quality-IBP-TP

Heat: A362665

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM)

SPECIFICATION: ASTM A513 TYPE 5

PART NUMBER: MT-A513-T-[D.DDD]WT.[TTT]

WHERE D.DDD IS OUTSIDE DIAMETER IN INCHES

WHERE T.TTT IS WALL THICKNESS IN INCHES

EG. 3/4" ROUND TUBING WITH .120" WALL THICKNESS = MT-A513-T-0.750W0.120

REV.	DESCRIPTION	ECN #	DATE	BY	APPROVED
A	NEW RELEASE	17-655	17.09.08	VM	VM
B	TYPE 5 ADDED, TEMPLATE UPDATED	17-790	17.12.13	VM	ML



TITLE
ASTM A513 TYPE 5 (1020/1026) ALLOY STEEL ROUND TUBING (DOM)

PART NO.
MT-A513-T

REV.
B

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES APPLY AFTER FINISHING

DESIGNED BY: VM 17/12/13
DRAWN BY: VM 12/13/2017
CHECKED BY: ML 12/20/2017
APPROVED BY: ML 12/20/2017

INITIALS AND DATE
TOLERANCES
FRACTIONS ± 1/8
DECIMALS ± .01
ANGLES ± .1
SURFACE
FINISHES

SCALE: NTS
SHEET 1 OF 1
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ALL DIMENSIONS ARE TO BE TAKEN FROM THE CENTERLINE UNLESS OTHERWISE SPECIFIED.

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: MT-4513-T-1.500W0-187

PO / BATCH NO.: PO42166/S144622

DATE: 19/01/14

MATERIAL CERT REC'D: Yes

QUANTITY RECEIVED: 12'

QUANTITY INSPECTED: 12

QUANTITY REJECTED: 0

THICKNESS ORDERED: 1.500"

THICKNESS RECEIVED: 1.500

SHEET SIZE ORDERED:

SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	N	
CORRECT FINISH	Y	N	
CORROSION	Y	Y	
CORRECT GRAIN DIRECTION	Y	N	
CORRECT MATERIAL PER M-DRAWING	Y	N	
CORRECT THICKNESS	Y	N	
PHOTO REQUIRED	Y	N	
CORRECT REF # TO LINK CERT	Y	N	
CORRECT MATERIAL IDENTIFICATION	Y	N	
CORRECT M# ON THE MATERIAL	Y	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	N	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	WEBSTER

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>61</u> <div style="text-align: center; margin-top: -10px;">9-89</div> DATE: <u>19/02/14</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in